AMENDMENTS TO THE DRAWINGS

The attached sheets of formal drawings include changes to Figs. 1 and 2. These sheets replace the original sheets including Figs. 1 and 2.

REMARKS

Reconsideration and allowance are requested.

The abstract is objected to noting an informality. The abstract has been amended.

Formal replacement drawings have been submitted that include functional labels. Approval by the Examiner is requested.

The claims are objected to and rejected noting punctuation and antecedent basis issues. A new claim set has been added that overcomes these concerns.

Claims 1-6 stand rejected under 35 U.S.C. §101 as not being within the technological arts and as not producing a useful, concrete, and tangible result. Both grounds of rejection are traversed.

The Board's recent decision in *In re Lundgren* holds that a technological arts rejection is not a proper or recognizable rejection. So this ground of rejection is no longer viable. Moreover, the technological art of computerized automated trading relates to a sophisticated use of a machine (an automated electronic trading exchange) including a computer having a CPU, a memory, and electronic communications mechanisms that permit the exchange to receive and match trading orders. There is no question that billions of dollars of commerce are conducted on a daily basis using electronic trading exchanges—a tangible, concrete, and useful result. The claimed method in claim 13 relates to trading using a particular type of trade order called a combination contract.

A combination contract is also a concrete and tangible thing. It includes a first number of sub-contracts for a first product and a second number of sub-contracts for a second product and a net-price, at least the first of the products in the combination contract having a non-zero spread, as recited in the independent claims. A trader may want to "swap" two instruments, i.e., sell

instruments currently owned and buy some other financial instruments instead. Consider derivatives as an example financial instrument. When the underlying price for a derivative has moved, it might be desirable to sell an option and buy another option with a strike price closer to the current underlying price. Some investment strategies also seek buy and sell multiple option instruments to gain advantage in the market place. Thus, the end result is tangible and useful: a combination contract in which the price of each individual sub-contract is determined to facilitate matching of the combination contract order by the automated exchange.

Since the method claims produce a useful, concrete, and tangible result, the rejection under 35 U.S.C. §101 should be withdrawn.

Claims 1, 2, 7, and 8 stand rejected under 35 U.S.C. §102 for anticipation based on Braddock. This rejection is respectfully traversed.

To establish that a claim is anticipated, the Examiner must point out where each and every limitation in the claim is found in a single prior art reference. *Scripps Clinic & Research Found. v. Genentec, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991). Every limitation contained in the claims must be present in the reference, and if even one limitation is missing from the reference, then it does not anticipate the claim. *Kloster Speedsteel AB v. Crucible, Inc.*, 793 F.2d 1565 (Fed. Cir. 1986). Braddock fails to satisfy this rigorous standard. Nor does the secondary reference USP 6,035,287 to Stallaert remedy Braddock's deficiencies.

Braddock describes a typical trading system where orders are divided into blocks, sorted, and entered into an order book. Braddock does not describe combination orders. Nor is any calculation of sub-contract price disclosed.

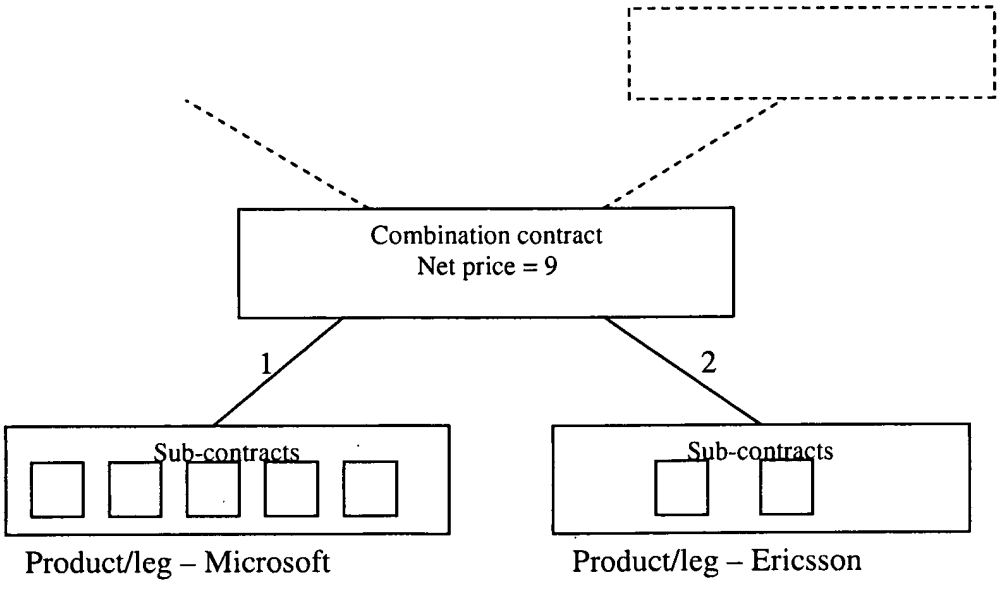
In order to aid the Examiner in understanding the significance of the features recited in the claims, the following background is provided. A contract (as opposed to a trade

request/order) is a trading unit for a financial instrument or commodity. The term is usually used for options, but it can be applied to other instruments too. A combination contract includes two or more legs. Each leg indicates a desire to buy or sell a specified number of contracts for a specified instrument. A simple example of a combination contract is "Buy 2 A and sell 1 B," where A is one financial instrument and B is another financial instrument. So in this example, there are two legs; the A leg and the B leg. For a particular leg, if the specified number of contracts is greater than one, those contracts belonging to the same leg are called sub-contracts. For example, the combination contract "Buy 2 A and sell 1 B" contains two sub-contracts for the leg trying to buy instrument A. When making a deal where multiple instruments are involved, it is important to make all trades as part of one atomic operation. Otherwise, the investor risks only succeeding in part of the desired deal and could then loose money if the market moves in an unfavorable direction. A combination contract takes care of multiple instruments being bought or sold so that all of these individual trades are executed as one atomic operation with a known net price for all of those trades.

Combination contracts must be concerned with the price "spread" for a financial instrument. The spread for a particular instrument is the price difference between the best bid (highest buy price) and the best ask (lowest sell price) being posted in a market for that instrument. In a combination contract, each leg has a spread. The spread for the whole combination contract depends on these leg spreads. The combination contract bid price is the highest price at which the entire combination contract can be sold by trading each leg the against the regular instruments in the regular order book. The combination ask price is the lowest price where the whole combination contract can be bought. A zero spread means there is no

difference between the bid and ask price, and a non-zero spread means there is a difference between the bid and ask price.

Consider the following non-limiting example of how a combination contract may be created using the claimed approach. This example is based on the non-limiting embodiment from the application. Assume that Microsoft and Ericsson stocks are traded at an automated exchange and that the tick size for both the stocks is 1, i.e., a tick is the minimum difference between two prices. Assume that the spread for Microsoft is 4 to 5, i.e., the bid price is 4 and the ask price is 5, and assume that the spread for Ericsson is 6 to 7, i.e., the bid price is 6 and the ask price is 7. Assume further that a combination contract to buy 5 Microsoft and sell 2 Ericsson is sent to an automated exchange, and that the net price for the combination contract is set to 9. The net price is chosen by the trader and is the price that the trader is willing to pay or receive for the combination contract. The following figure helps illustrate this example.



The computer in the automated exchange checks each leg, calculates each leg's spread, and checks if it is a buy or a sell leg. Thereafter, it calculates the spread for the combination contract. The spread for the Microsoft leg is [20 to 25], since 4*5=20 and 5*5=25. The spread for the Ericsson leg is calculated in the same way and gives [-12 to -14]. The net price spread for the combination contract can be calculated as follows:

4*5(Microsoft)-7*2(Ericsson)=6 (best case)
5*5(Microsoft)-6*2(Ericsson)=13 (worst case)

The net price spread for the combination contract in this case is [6 to 13]. Thus, the minimum allowed net price for the combination contract is 6 and the maximum is 13. The net price is checked to determine whether it is a valid net price. In this case, the net price of 9 is between 6 and 13 and is therefore valid.

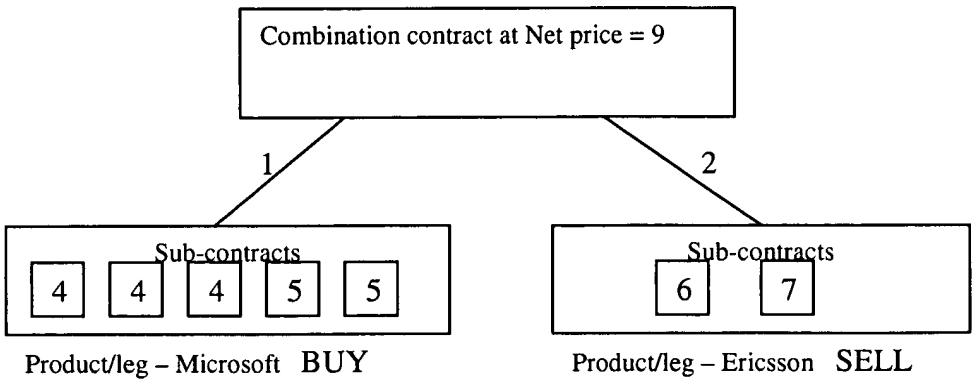
The next task is to transfer the desired net price of 9 given the combination contract spread [6 to 13] to the individual leg spreads. In other words, the automated exchange needs to determine valid prices at which to buy five sub-contracts of Microsoft and valid prices at which to sell two sub-contracts of Ericsson in order to obtain the desired net price of 9. To do this, a price is selected and a percentage is calculated for each of the Microsoft and Ericsson legs. The percentage is determined using the remaining net price in relation to the combination spread for the remaining legs (as input). The percentage is set as the difference between the remaining net price 9 and the combination bid price 6 for the remaining legs divided by the combination spread for the remaining legs (remaining also includes the current leg). In the example, for the Microsoft leg, the percentage is determined as follows (9-6)/(13-6)=0.4285.

Thereafter, an optimal price is calculated for the Microsoft leg: 0.4285*(25-20)+20= 22.1428, which preferably is rounded to closest valid tick price of 22. The optimal price 22 is

divided by the multiplier 5 corresponding to the 5 Microsoft sub-contracts in the Microsoft leg, which gives the price 4.4. That price is rounded down to the closest valid tick price, which in this example is 4. Now one price for the Microsoft leg of the combination contract has been determined. In order to find the next price, the tick size 1 is added to 4 which gives 5. Now two valid prices have been selected, one tick apart, so that one price for the leg is above and one price for the leg is below (or at) the optimal price 22 divided by the multiplier 5.

Then the volume for each price level 4 and 5 for the Microsoft leg is determined before moving to the Ericsson leg. When the prices for the first leg have been determined, their contribution is subtracted from the net price to generate a residual net price, and the calculations are repeated for the remaining legs using the residual net price. The procedure is repeated until there are no more legs in the combination contract.

In this example, prices for the individual legs would be 3 Microsoft at the price 4, 2 Microsoft at the price 5, 1 Ericsson at the price 6, and 1 Ericsson at the price 7. See the illustration below. These determined sub-contract prices give the correct net price (9) for the combination contract.



So two prices are selected for each financial instrument having a non-zero spread, and those two prices are preferably within the spread. Thus, a leg can be divided into two sets of sub-contracts, each set having a different price for its sub-contract within the spread and a volume. Although the example uses only two legs, this approach can be used for combination contracts with any number of legs.

Neither Braddock nor Stallaert disclose or suggest the claim feature of determining different prices for the sub contracts in a leg of a combination contract. This feature allows the automated exchange to create a combination contracs so that the combination contract in its entirety, as well as each of its legs, fulfills one or more market criteria, such as having prices within a spread. Another advantage is a tradable combination contract is created regardless of the number of leg multipliers (volume) in the combination contract, regardless of different spreads, regardless of the tick size, regardless of the combination quantity, and regardless of the net price.

The Examiner states that Braddock discloses "allowing the prices for at least the first number of the sub-contracts to be different" (column 3, lines 3-7). This text in Braddock does not disclose anything that allows sub-contracts for the same financial instrument in a combination contract to have different prices. Braddock does not even mention combination contracts. Braddock states: "buy orders are collected, broken down into blocks of 100 share orders and sequenced first by price from highest to lowest and second by time of order." But this just means that one individual order comprising a large amount of shares is divided into blocks of 100 shares; each block having the same price. This individual order relates only to one stock and not to a combination of different stocks. There is no price difference between the blocks in one order. Dividing orders in to block sizes of 100 and sequencing after price is very different

from "*for at least the first product, selecting a plurality of different prices for the first number of sub-contracts*" as recited in the independent claims.

The Examiner states that Braddock discloses "*determining the price of the individual sub-contracts using different prices for at least the first number of the sub-contracts*" (column 3, lines 8 to 10). This text does not teach determining the price of individual sub-contracts in a combination contract by using different prices for at least the first number of the sub-contracts. Braddock states that "the lists are then compared matching the first round lot buy (at the highest price) with the first round lot set (at the lowest price)." This refers to normal matching between buy and sell orders in a market and does not have anything to do with determining a price of individual sub-contracts in a combination contract. There is no teaching of "*determining the price of the individual sub-contracts based on the plurality of different prices.*"

Lacking multiple claim features and their associated advantages, the application is in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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